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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,231	10/12/2004	Andreas Schuppert	100717-574	9226
27386 7590 12/27/2007 NORRIS, MCLAUGHLIN & MARCUS, P.A. 875 THIRD AVE 18TH FLOOR NEW YORK, NY 10022			EXAMINER KENNEDY, ADRIAN L	
			ART UNIT	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/511,231	Applicant(s) SCHUPPERT ET AL.	
	Examiner Adrian L. Kennedy	Art Unit 2121	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*Examiner's Detailed Office Action*

1. This Office Action is responsive to **Request for Continued Examination**, filed **September 25, 2007**.
2. **Claims 22-44** will be examined.

*Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 22-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et al. (USPN 6,996,550, referred to as Wang).

Regarding claim 22:

Wang teaches

a) selecting (Wang; C 4, L 46-54) at least a first experiment (Wang; C 4, L 54-56) from an experimental space (Wang; C 4, L 54-56; Having not further defined the applicant's claimed "experimental space" in the claimed invention, the examiner has found that the claimed "experimental space" reads on the parameter space taught by Wang.) including a plurality of experiments using a data-driven optimizer;

b) inputting experimentally determined experiment result data (Wang; C 4, L 46-54; Examiner's Note (EN): Having not further defined the applicant's claimed "experiment result data" in the claimed invention, the examiner has found that the claimed "experiment result data" reads on the experimental constraints taught by Wang.) of the first experiment to at least one meta layer module (EN: The examiner takes the position that the receiving of experiment data at a "meta layer" is anticipated by Wang teaching the process of "providing" in Column 4, Lines 46-54, and teaching the use of optimization processing in selecting and generating configuration in Column 6, Lines 15-17.);

c) evaluating the experimentally determined experiment result data of the first experiment at the meta layer module (Wang; C 6, L 16-18; Having not further defined the applicant's claimed "evaluating" in the claimed invention, the examiner has found that the claimed "evaluating" reads on the optimization process taught by Wang.), wherein the meta layer module generates evaluation data (Wang; C 6, L 14-16; Having not further defined the applicant's claimed "evaluation data" in the claimed invention, the examiner has found that the claimed "evaluation data" reads on the plurality of configurations as taught by Wang.) based on the evaluating of the experimentally determined experiment result data (EN: The examiner takes the position that in teaching that the optimization process determines the optimal sequence of events for the experiments in Column 6, Lines 35-37, Wang anticipates the applicant's claimed evaluating being based on experimentally determined data. This position is supported by the fact that in order for the optimization

to determine the optimal sequence of events, the process has to evaluate the configurations.); and

d) processing the experimentally determined experiment result data of the first experiment at the optimizer, wherein the processing at the optimizer is influenced by the evaluation data and wherein the optimizer generates experiment design data based on the processing of the experimentally determined experiment result data (Wang; C 6, L 25-34);

e) outputting an experiment design based on the experiment design data (Wang; C 7, L 19-21; EN: Having not further defined the applicant's claimed "outputting" in the claimed invention, the examiner has found that the claimed "outputting" reads on the outputting of data representing an experiment as taught by Wang.).

Regarding claim 23:

Wang teaches

f) inputting an optimization goal (EN: The examiner take the position that the inputting of an optimization goal is inherent in optimization process in the invention of Wang);

g) selecting at least a second experiment (Wang; C 4, L 54-56) from the experimental space (Wang; C 4, L 54-56) using the optimizer;

h) performing step b) to step d) for experimentally determined experiment result data of the second experiment (EN: The examiner takes the position that in teaching the generation and selection of several configurations, and the optimizing of this process, Wang anticipates the performing of the applicant's claimed steps.); and

i) continuing to perform steps g) and h) until the optimization goal is reached (Wang; C 6, L 35-37; EN: The examiner takes the position that the reaching of an optimization goal during the process of generating and selecting configurations is anticipated in Wang teaching the identifying of an optimal sequence of events in a experiments in Column 6, Lines 35-37).

Regarding claim 24:

Wang teaches

(previously presented) The method wherein at least one of the optimizer and the meta layer module changes the experimental space before the selecting the at least one second experiment step (Wang; C 6, L 25-34).

The examiner takes the position that the “configurations” serves as both an experimental spaces and the result of evaluations. The optimization process (Wang; C 6, L 16-18; “*optimization process*”) generates a new experimental space (Wang; C 6, L 25-34; “*second configurations*”) after processing (Wang; C 6, L 14-16; “*performing an optimization process*”) previous experimental spaces (Wang; C 6, L 25-34; “*preceding configuration*”).

Regarding claim 25:

Wang teaches

(previously presented) The method wherein the meta layer module (Wang; C 6, L 16-18; Having not further defined the applicant's claimed “meta layer module” in the claimed

invention, the examiner has found that the claimed "meta layer module" reads on the optimization process taught by Wang.) contains at least one of a neural network module, a hybrid model module, a rigorous model module and a data mining module (Wang; C 6, L 25-34; EN: The examiner takes the position that data mining is inherent in the process of optimization).

Regarding claim 26:

Wang teaches

(currently amended) The method wherein the experiment result data is based on experiments from at least one of active ingredient research, materials research, catalysis research, biotechnology and optimization of reaction conditions (Wang; C 9, L 13-20).

Regarding claim 27:

Wang teaches

(currently amended) The method wherein the evaluating at the meta layer module to generate the evaluation data includes the step of filtering the experiment result data (Wang; C 10, L 53-61; Having not further defined the applicant's claimed "filtering of experiment result data" in the claimed invention, the examiner has found that the claimed "filtering of experiment result data" reads on the screening of experiment data as taught by Wang).

Regarding claim 28:

Wang teaches

(currently amended) The method wherein the filtering includes re-evaluating the experiment result data (Wang; C 32, L 35-42).

Regarding claim 29:

Wang teaches

(currently amended) The method wherein the filtering includes at least one of weighting (Wang; C 19, L 13-15) and pre-selecting the experiment result data.

Regarding claim 30:

Wang teaches

(currently amended) The method wherein the weighting includes at least one of using a weighting parameter (Wang; C 19, L 13-15) and performing at least one duplication of the experiment result data.

Regarding claim 31:

Wang teaches

(previously presented) The method wherein the optimizer includes at least one core module and one module for selecting new test points (Wang; C 32, L 25-29).

Regarding claim 32:

Wang teaches



(previously presented) The method wherein the processing at the optimizer is influenced based on processing at the module for selecting the new test points (Wang; C 32, L 25-29).

Regarding claim 33:

Wang teaches

(previously presented) The method wherein the processing at the module for selecting the new test points is influenced by at least one of a value exceeding a threshold (Wang; C 32, L 51-53; EN: Having not further defined the applicant's claimed "value exceeding a threshold" in the claimed invention, the examiner has found that the claimed "value exceeding a threshold" reads on the passing of an acceptance threshold as taught by Wang.) and a predefined user value.

Regarding claim 34:

Wang teaches

(previously presented) The method wherein the processing at the optimizer is influenced based on processing at the core module.

The examiner takes the position that although Wang does not explicitly recite the use of a "core module", the operations performed by this module as disclosed in the applicants' specification in Paragraph 0048 are inherent in the optimization process (C 32, L 5-42).

Regarding claim 35:

Wang teaches

(previously presented) The method wherein processing at the core module is influenced by at least one of a value exceeding a threshold (Wang; C 32, L 51-53; EN: Having not further defined the applicant's claimed "value exceeding a threshold" in the claimed invention, the examiner has found that the claimed "value exceeding a threshold" reads on the passing of an acceptance threshold as taught by Wang.) and a predefined user value.

Regarding claim 36:

Wang teaches

an experimental space module (Wang; C 4, L 54-56; Having not further defined the applicant's claimed "experimental space module" in the claimed invention, the examiner has found that the claimed "experimental space module" reads on the parameter space taught by Wang.) including a plurality of experiments (Wang; C 5, L 46-47; EN: Having not further defined the applicant's claimed "plurality of experiments" in the claimed invention, the examiner has found that the claimed "plurality of experiments" reads on the use of several configurations taught by Wang.):

an experiment data module including experimentally determined experiment result data for at least one of the experiments in the experimental space module (Wang; C 4, L 54-56; EN: The examiner takes the position that Wang anticipates the applicant's claimed experimental data module containing experimentally determined experiment data, in

teaching his configurations containing patterns from other configurations that were generated.);

a optimizer for selecting (Wang; C 4, L 46-54) at least one first experiment (Wang; C 4, L 54-56) from the experimental space module (Wang; C 4, L 54-56; Having not further defined the applicant's claimed "experimental space module" in the claimed invention, the examiner has found that the claimed "experimental space module" reads on the parameter space taught by Wang.);

a meta layer module coupled to the optimizer (Wang; C 6, L 16-18; Having not further defined the applicant's claimed "meta layer module" in the claimed invention, the examiner has found that the claimed "meta layer module" reads on the optimization process taught by Wang.) for receiving experimentally determined experiment result the first experiment from the experiment data module;

wherein the meta layer module evaluates the experimentally determined experiment result data and generates evaluation data based on the evaluation of the experimentally determined experiment result data (Wang; C 6, L 14-16; EN: The examiner takes position that Wang anticipates the applicant's claimed meta layer evaluating data and generating evaluation data, in teaching the inclusion of an optimization process in the generation and selection of configurations.);

wherein the optimizer processes the experimentally determined experiment result data of the first experiment and generates experiment design data based on the processing of the experimentally determined experiment result data of the first experiment, wherein the processing by the optimizer is influenced by the evaluation data (Wang; C 6, L 35-37;

EN: The examiner takes the position that Wang anticipates the applicant's claimed optimizer processing experimentally determined result data, in teaching that his optimizer determines the optimal sequence of event in experiments.); and wherein the optimizer outputs to the experimental space module an experiment design based on the experiment design data (EN: The examiner takes the position that Wang anticipates the outputting of the optimal experiment design in teaching the selecting of the configuration including the identifying of the optimal configuration in Column 6, Lines 35-37 and teaching the outputting of the experiment design in Column 7, Lines 19-21.).

Regarding claim 37:

Wang teaches

(previously presented) The system wherein the meta layer module (Wang; C 6, L 16-18; Having not further defined the applicant's claimed "meta layer module" in the claimed invention, the examiner has found that the claimed "meta layer module" reads on the optimization process taught by Wang.) includes at least one of a neural network module, a hybrid model module, a rigorous model module and a data mining module (Wang; C 6, L 25-34; EN: The examiner takes the position that data mining is inherent in the process of optimization.).

Regarding claim 38:

Wang teaches

(currently amended) The system where the meta layer module includes a filtering module for filtering the experiment result data (Wang; C 10, L 53-61; Having not further defined the applicant's claimed "filtering of experiment result data" in the claimed invention, the examiner has found that the claimed "filtering of experiment result data" reads on the screening of experiment data as taught by Wang).

Regarding claim 39:

Wang teaches

(currently amended) The system wherein the filtering module is operable to re-evaluate the experiment result data (Wang; C 32, L 35-42).

Regarding claim 40:

Wang teaches

(currently amended) The system wherein the filtering module is operable to perform at least one of weighting (Wang; C 19, L 13-15) and pre-selecting the experiment data.

Regarding claim 41:

Wang teaches

(previously presented) The system wherein the optimizer includes at least one core module and a module for selecting new test points (Wang; C 32, L 25-29).

Regarding claim 42:

Wang teaches

(previously presented) The system wherein the meta layer module is operable to influence the module for selecting the new test points (Wang; C 32, L 25-29).

Regarding claim 43:

Wang teaches

(previously presented) The system wherein the meta layer module is operable to influence the core module (Wang; C 32, L 5-42; EN: Having not further defined the applicant's claimed "influencing of a core module" in the claimed invention, the examiner has found that the claimed "influencing of a core module" reads on the optimization process taught by Wang).

Regarding claim 44:

Wang teaches

(a) the optimizer selects (Wang; C 4, L 46-54) at least one second experiment (Wang; C 4, L 54-56) from the experimental space module (Wang; C 4, L 54-56; Having not further defined the applicant's claimed "experimental space module" in the claimed invention, the examiner has found that the claimed "experimental space module" reads on the parameter space taught by Wang.);

(b) the meta layer module receives experimentally determined experiment result data of the second experiment from the experiment data module, evaluates the experimentally determined experiment data of the second experiment and generates evaluation data

based on the evaluation of the experimentally determined experiment data of the second experiment (EN: The examiner takes the position that it is inherent in the invention of Wang, that the optimization process receives the experimentally determined data. This inherency is found in the fact that in order for the optimization process to select the best sequence of events () in an experiment, it must receive the sequence of events, which are experimentally determined using the optimization process.); and

(c) the optimizer processes the experimentally determined experiment data of the second experiment and generates experiment design data based on the processing of the experimentally determined experiment data of the second experiment, wherein the processing by the optimizer is influenced by the evaluation data generated from the experimentally determined experiment data of the first and second experiments (Wang; EN; C 6, L 35-37; EN: Having not further defined the applicant's claimed process of the "optimizer processing experimentally determined result data" in the claimed invention, the examiner has found that the claimed "optimizer processing experimentally determined result data" reads on the optimizer determining the optimal sequence of events in experiments as taught by Wang. The examiner takes the position that it inherent for the optimization process's processing to be influenced by its evaluation of the process being optimized.);

### *Response to Arguments*

Applicant's arguments filed on September 25, 2007 have been fully considered but are found to be non-persuasive. The unpersuasive arguments made by the Applicant are stated below:

In reference to Applicant's argument:

Nowhere does Wang et al. teach or suggest generating evaluation data at a meta layer module based on the meta layer module's evaluation of experimentally determined experiment result data, which constitutes prior experimentation knowledge, and then using the evaluation data to influence (tune) optimization processing of the experimentally determined experiment result data at the optimizer, as required by claim 22.

Examiner's response:

The examiner has considered the applicant's argument and has found that the applicant has argued limitations that are not found in the claimed invention therefore the applicant's argument's are non-persuasive. Specifically, the applicant states that the data "constitutes prior experimentation knowledge", which is not a limitation found in claim 22.

#### ***Conclusion***

Claims 22-44 are rejected.

#### ***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrian L. Kennedy whose telephone number is (571) 270-1505. The examiner can normally be reached on Mon -Fri 8:30am-5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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ALK

David Vincent  
Supervisory Patent Examiner  
Technology Center 2100

  
JOSEPH P. HIRL  
PRIMARY EXAMINER  
TECHNOLOGY CENTER 2100